



# COMPLETE DENTURE IMPRESSION

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# Terminology

- ▣ **Impression** : an impression is an imprint or negative reproduction of an object from which a positive likeness or cast can be made.
- ▣ **Preliminary impression**: it is an impression made in a stock tray for making a study cast on which a custom tray is constructed.
- ▣ **Final impression** : it is an impression made in custom tray and it is used for the purpose of making the master cast on which the denture is constructed.

# Requirements of impression

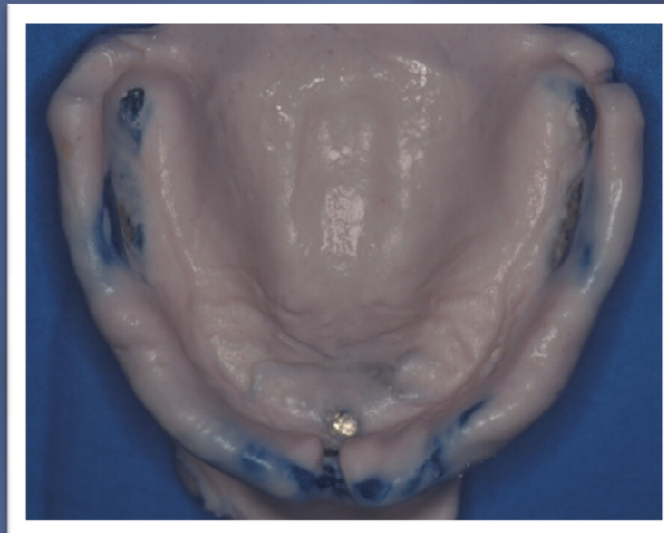
- ▣ Maximum allowable coverage for support
- ▣ Selective placement of force
- ▣ Impression border should be harmonious with the limiting structures
- ▣ Recording fine details.





# 1- Preservation

- ▣ Preservation of the remaining tissues is the main objective.
- ▣ Pressure in the impression technique is reflected as pressure in the denture base and results in soft tissue damage and bone resorption.



## 2- Support



- ▣ It is the resistance to vertical component of force applied in a direction towards the basal seat.
- ▣ Wide distribution of force so reduce load per unit area and so preservation of the supporting structures.

# 3- Stability



- ▣ It is the resistance to horizontal movement.
- ▣ Denture stability affected by:
  - Size and form of the basal seat
  - Quality of the final impression
  - Form of the polished surface
  - Proper location and arrangement of the artificial teeth.



## 4- Retention



- ▣ It is often achieved when other factors are maintained.
- ▣ Proper impression should extended adequately to the limiting structures without impingement on the movable tissues.
- ▣ Once the peripheral seal is gained other physical means become more applicable.

## 5- Esthetics

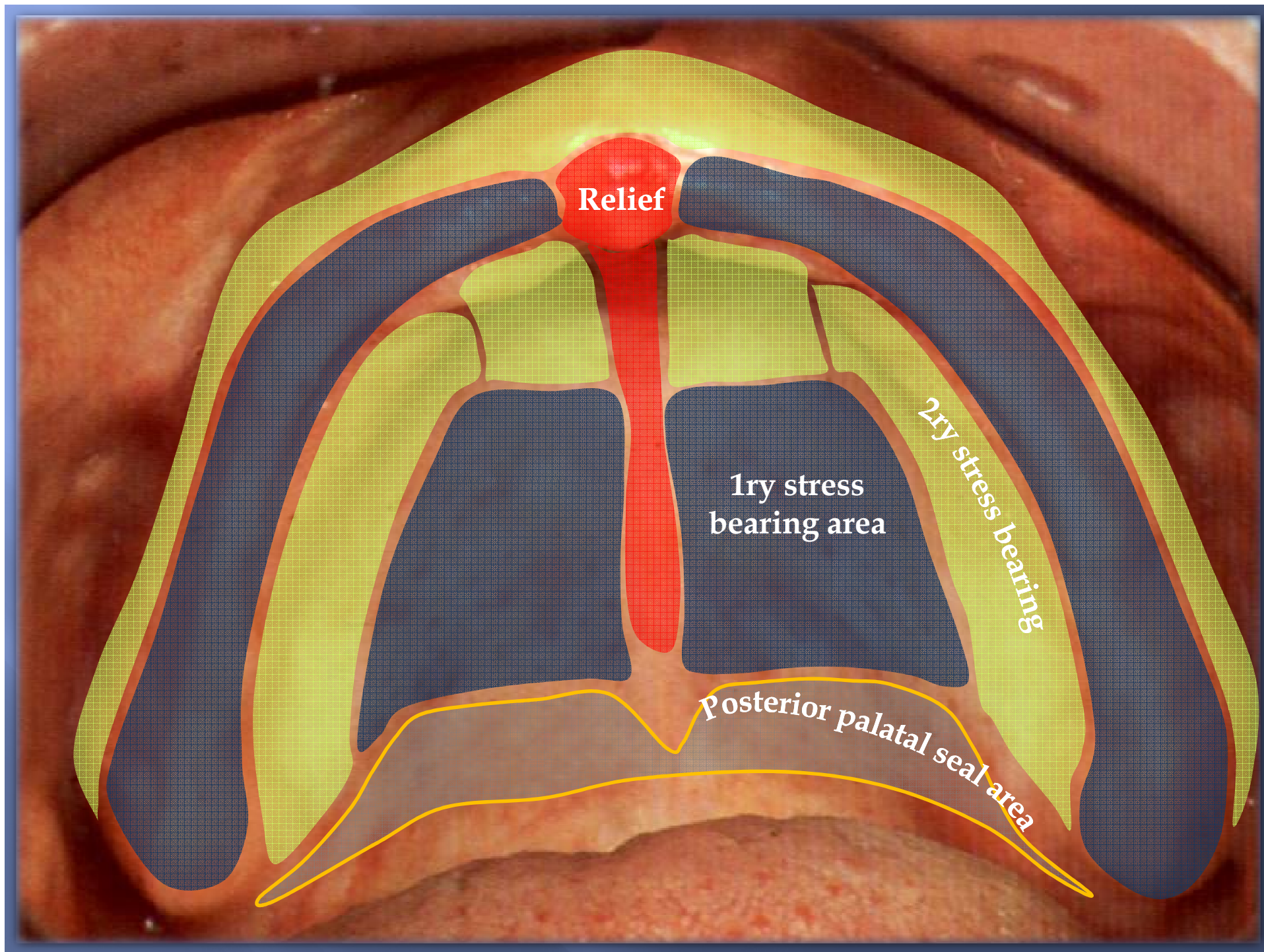
- ▣ Border thickness should be varied with the needs of each patient in accordance with the extent of residual ridge loss.
- ▣ The border should restore the facial appearance but without over-contouring.



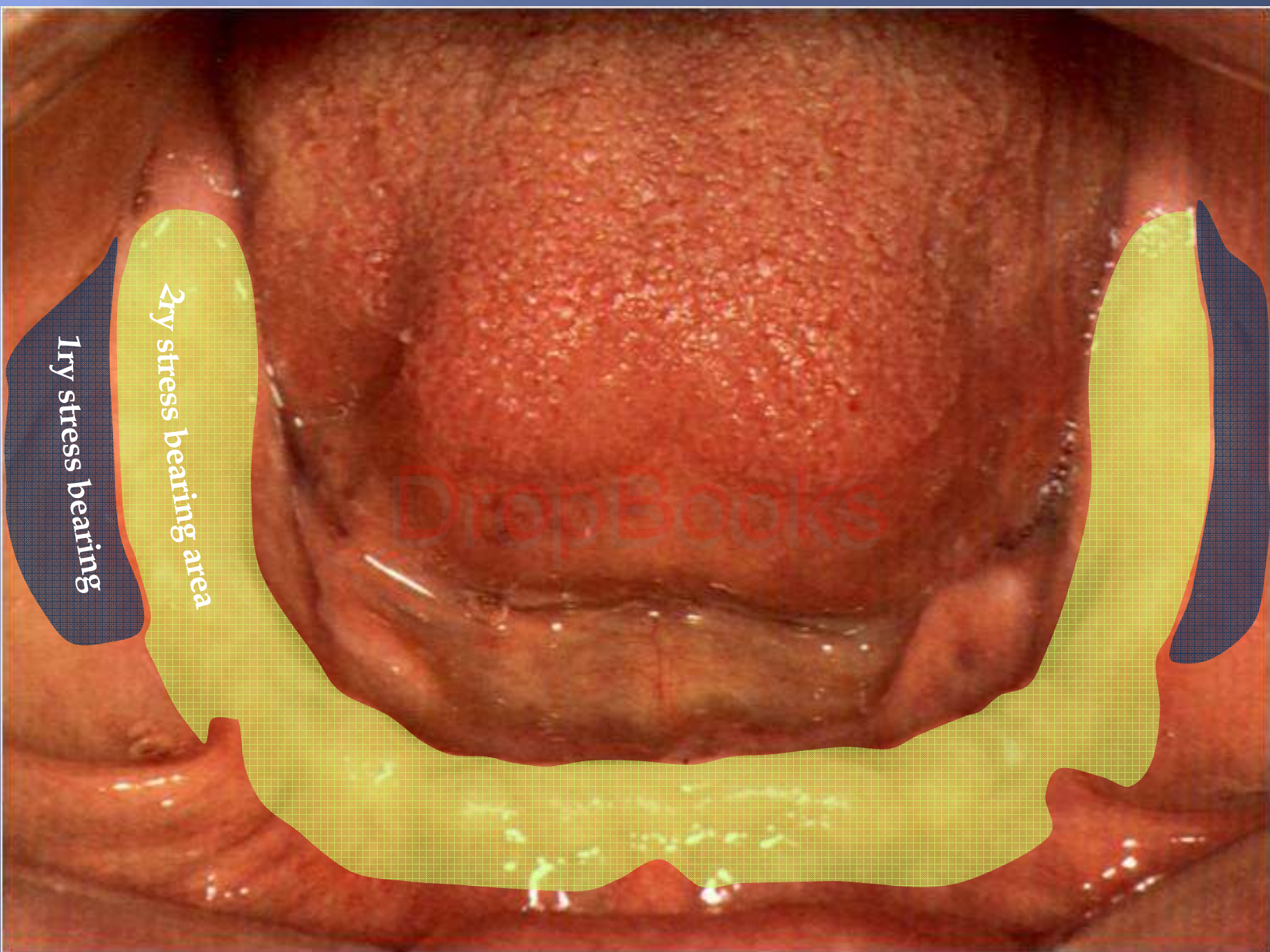


# Anatomical considerations

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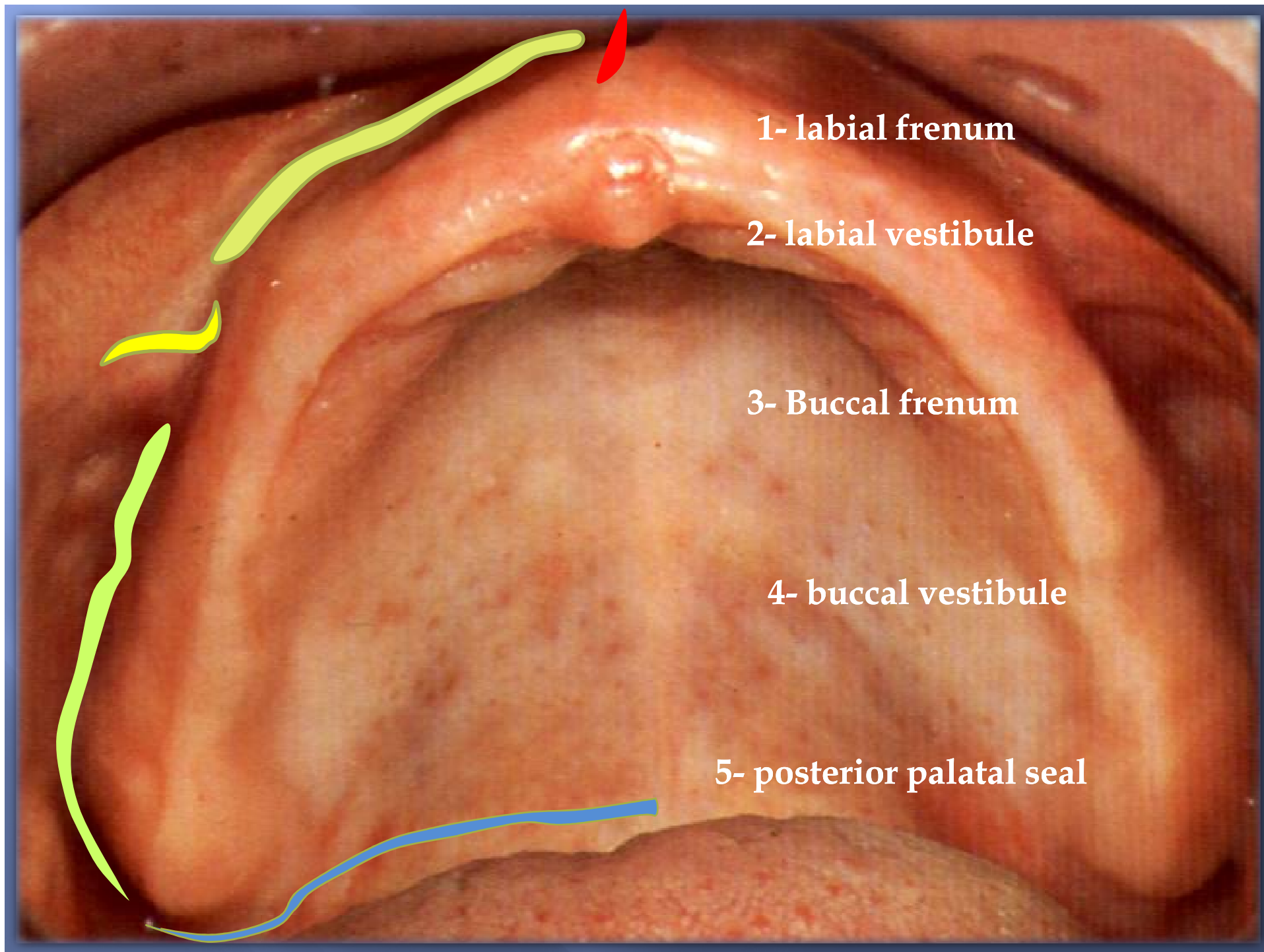




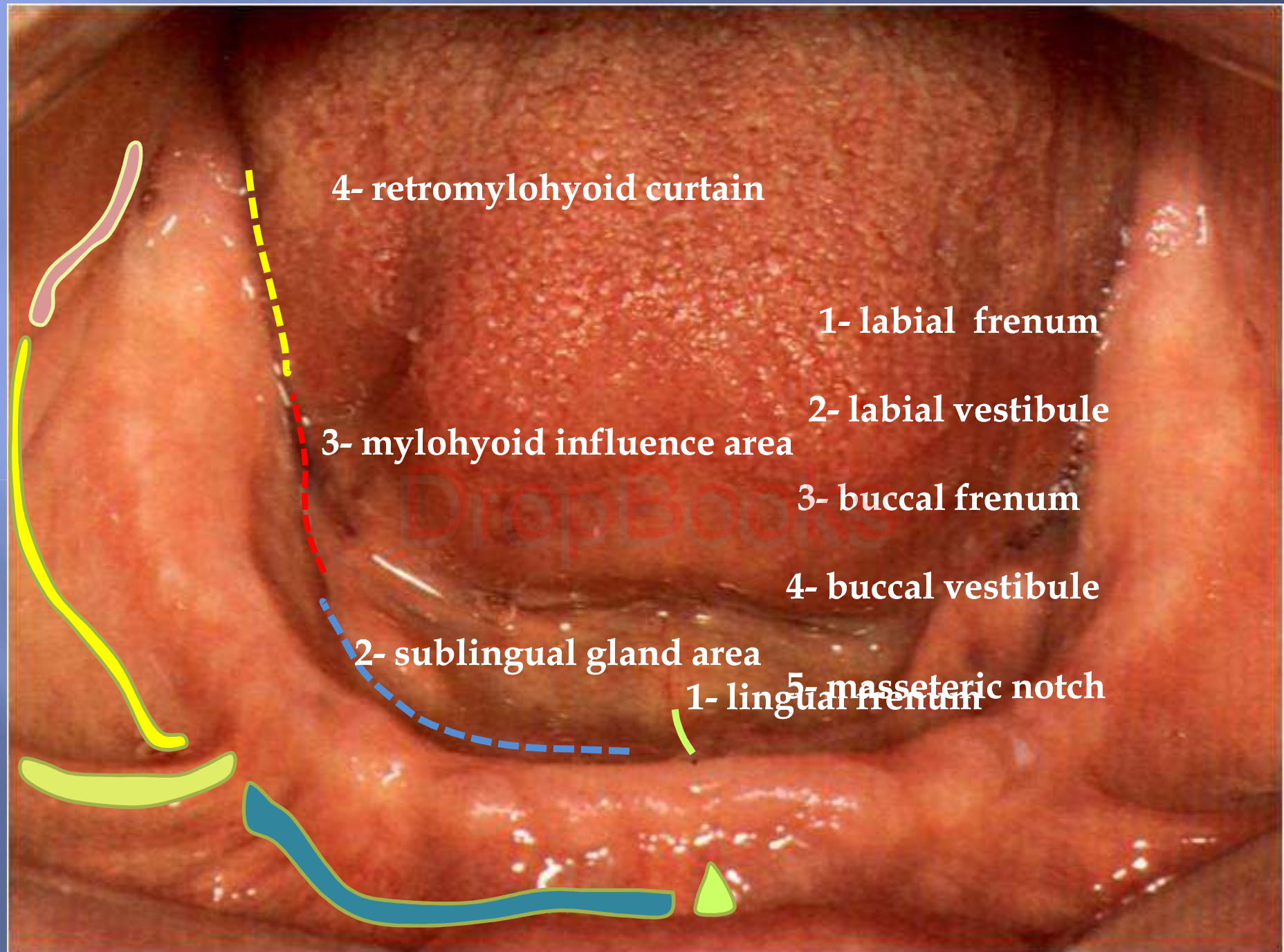


2ry stress bearing area

1ry stress bearing







# Preliminary impression

# Preliminary impression

- ▣ **Purpose:**

- for diagnosis and construction of custom impression trays.

- ▣ **Requirements:**

- must capture all intraoral landmarks i.e. retromolar pads, retromylohyoid space, hamular notches, etc.
- must essentially capture the 3-D contours of the vestibular borders of the limiting structures.

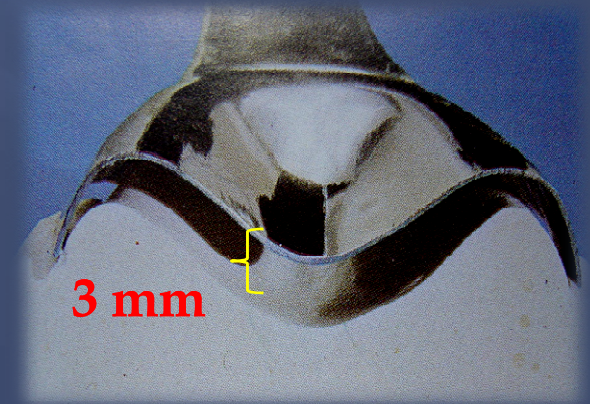
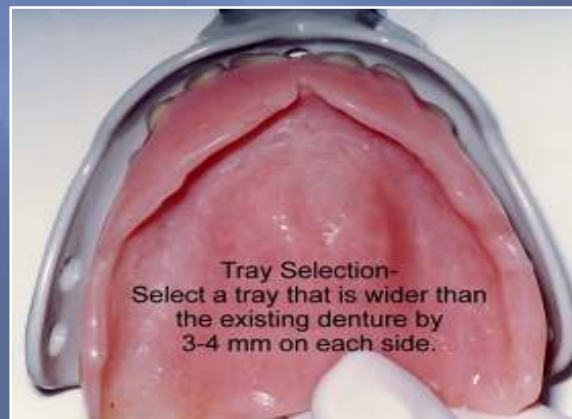
❑ An accurate preliminary cast records all anatomic landmarks that should be covered by a denture and permits fabrication of properly extended custom trays that will expedite border molding and facilitate a quality final impression.



# Selection of the stock tray

## ▣ Selection of upper tray

- Select a tray that is at least 3 mm larger than the residual ridge.
- Caliper could be used to facilitate size selection.



# Stock tray selection

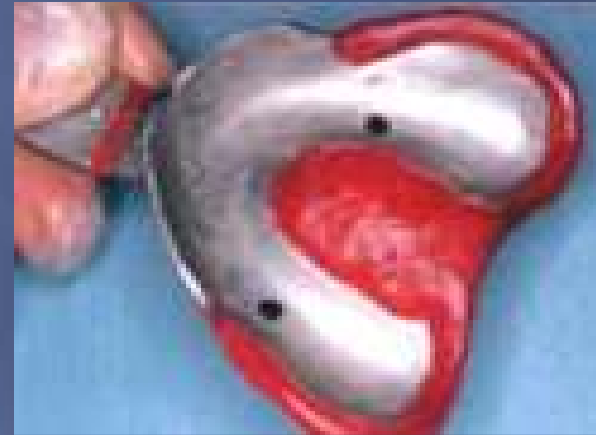
- Use the caliper to measure the width of the residual ridge just below retromolar pad. This can be done on the existing denture, as shown, or in the patient's mouth.
- The tray should provide space for 3 mm bulk of impression material.



# Stock tray modifications



Cutting areas of impingement



Adding palatal vault and distobuccal areas



Wax border molded to adjust borders





# Preliminary Alginate impression

## Materials and instrument set-up

- Alginate
- Tray Adhesive
- Edentulous stock trays
- Rubber mixing bowl
- Round edge spatula
- Periphery wax
- Mouth mirror
- 2x2 gauze
- Water bath



- ❑ **Tray selection**
- ❑ **Tray modification could done using compound or wax. Warm the periphery wax in a warm water bath.**
- ❑ **Border molding done by inserting the tray in patient's mouth and "border mold" the periphery wax to the intraoral contours of the lips and cheeks.**

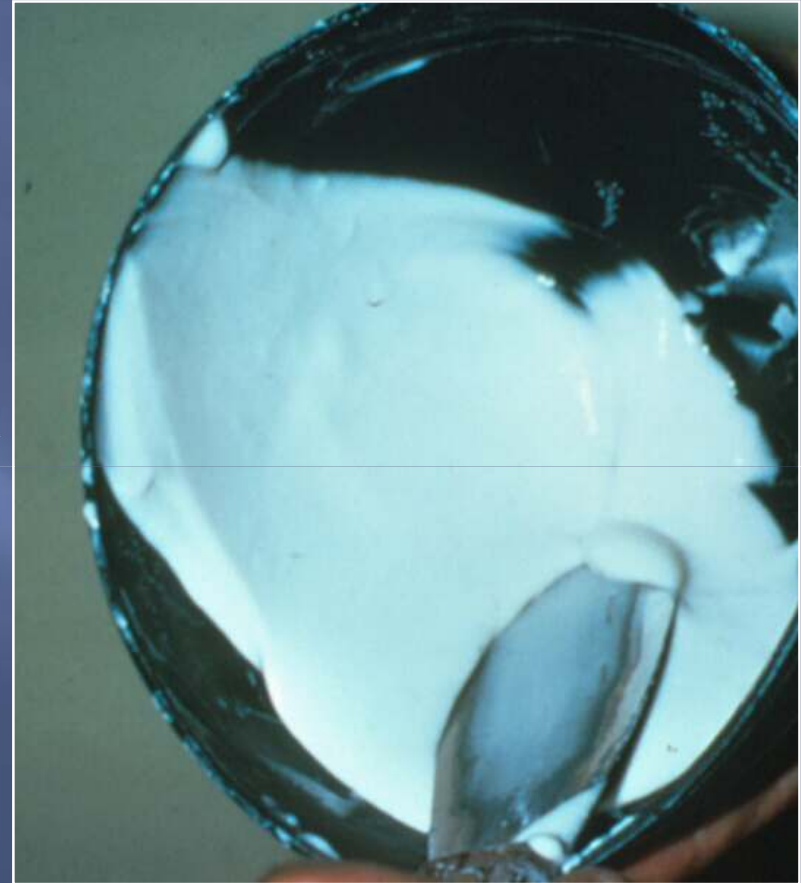


- ❑ The patient's clothing should be protected with towels
- ❑ Asking the patient to use warm mouth wash of sodium bicarbonate to dissolve the mucous
- ❑ Dry the vestibules and palate with a 2x2 gauze.





- ❑ Mix the alginate
- ❑ Use round edge spatula
- ❑ Mix in a vigorous manner using sweeping strokes against the walls of the mixing bowl
- ❑ Mix to a creamy consistency
- ❑ It is often recommended to use slightly *less water* than the directions specify to achieve a thicker mix. This is especially useful when making the maxillary impression to reduce the likelihood of gagging.



- ❑ **Load the tray then distribute and smooth material in tray using moist fingers.**



## Make the Impression

- Rotate tray into position
- Seat posterior portion first
- Gently border mold the impression by release air and entrapped tissues before manipulating the lip and the cheek.

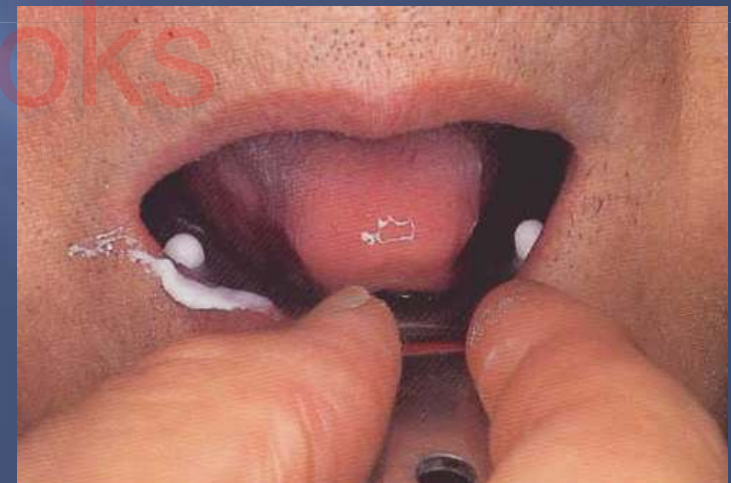


*Note the forward positioning of the patient*



## Mandibular Impression

- Rotate tray into position
- Ask the patient to raise his tongue slightly before seating the lower tray.
- Gently border mold the impression by release air and entrapped tissues before manipulating the lip and the cheek.
- Ask the patient to move his tongue from side to side and upward touching the incisive papilla.





## Completed Preliminary Impressions

- Should have no major pressure spots or voids
- Should capture all peripheral extensions



*Note the capture of the retromolar pad and the peripheral extensions.*



*This impression captures all of the anatomical landmarks i.e. hamular notch, posterior palatal seal, etc.*



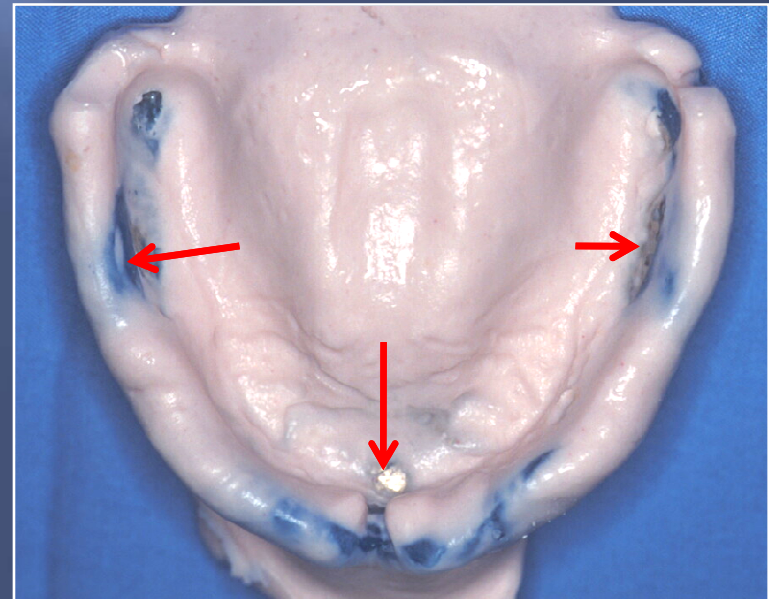
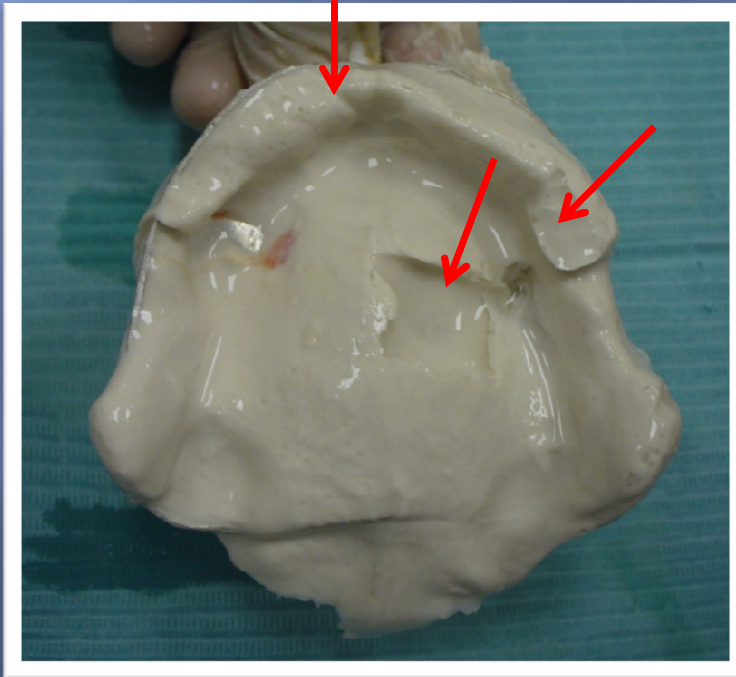
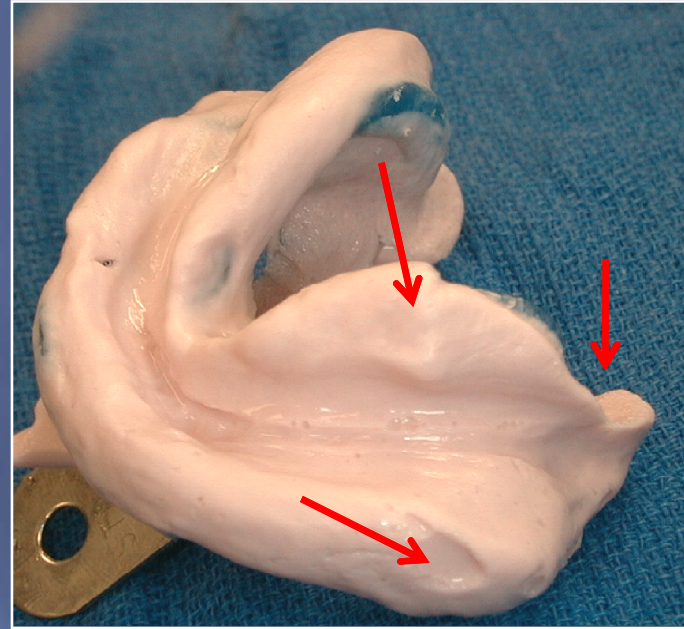
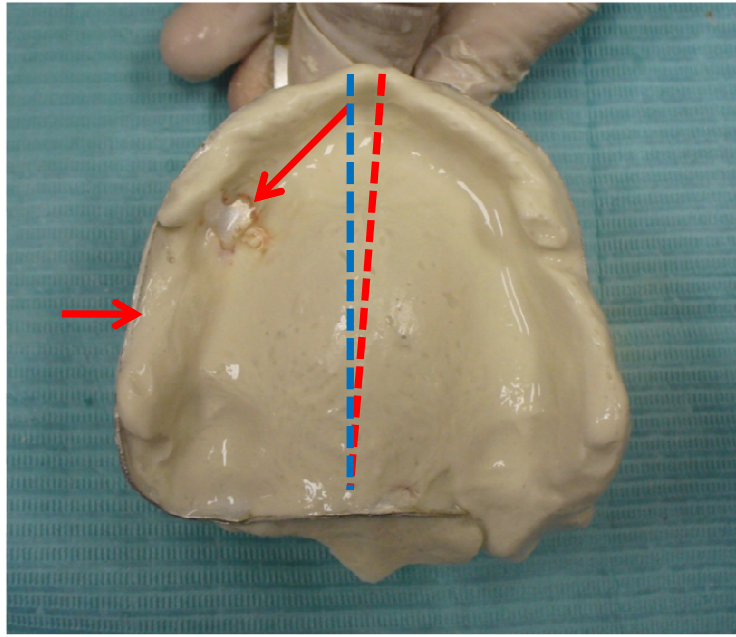


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# Errors in primary impressions

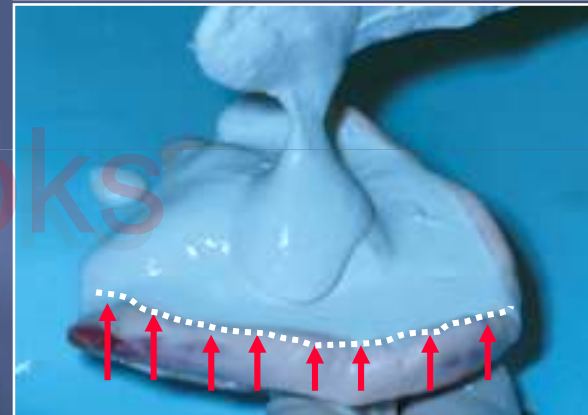
- ▣ Voids
- ▣ Improper centralization
- ▣ Pressure areas
- ▣ Over-extended border
- ▣ Under-extended border
- ▣ Improper removal of the mucous from the palate.



## Pour the impression

- Dense mix of plaster
- Avoid entrapment of air bubbles
- Pour the impression with adequate plaster to create a base

*Note: The plaster should cover the peripheral borders of the impression.*





## Completed preliminary casts

- should have adequate bases
- the “tongue” area of the mandibular cast should be flat as shown



# Compound impression

- ▣ High fusing compound is a non-elastic thermoplastic material could be used in flat ridge cases and patient with gag reflex problems.
- ▣ Compound cakes are heated in water bath of 60-65 °C
- ▣ This material has low thermal conductivity so should be carefully kneaded by fingers

# Lower compound impression

- ▣ Compound should be softened in a warm water bath, and then kneaded between the operator's finger before use.
- ▣ The compound for the lower impression tray should be rolled and placed within the tray.





❑ Reshape the compound in the tray.



❑ Loaded tray seated in the patient's mouth followed by border molding



- Any defects in the impression may be locally softened the compound with alcohol torch, then tempering in hot water and reseal the tray in patient mouth.



- Impression re-inserted in patient's mouth





**Well-formed impression of  
(lower) lingual sulcus area**

# Upper compound impression

- The compound for the upper impression should be rolled into a ball placed in the center of the impression tray
- then molded with the fingers to the approximate shape of the final denture.





- The impression tray should be seated gently in patient mouth then border molded.



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- The impression is chilled in cold water and then inspected for defects.



# Management of nausea during impression making

- ▣ Check if the patient is mouth breather.
- ▣ Wrap patient cloth well with napkin and ask him to move his head forward during impression making.
- ▣ Ask the patient to breath from nose deeply.
- ▣ Avoid using excess impression material.
- ▣ Try to remove excess saliva by suction time by time.
- ▣ Interrupt the patient mind during setting of the impression.
- ▣ Use desensitizing agents topically.



Thank you

